

LISST-PORTABLE | XR

LOW-COST PARTICLE SIZE ANALYZER

Particle Size Distribution • Particle Volume Concentration

The LISST-Portable | XR is the worlds' only portable, battery-powered laser diffraction based particle size analyzer. Designed for use in the field and the laboratory, it analyzes the sample in a wet state to obtain particle size distribution and particle volume concentration. To ensure maximum portability and complete freedom from a laboratory environment, it features an integrated mixing chamber, touch panel display, rechargeable battery, shock mounted optics, built-in ultrasonic probe and onboard data processing and storage.



FEATURES

- Truly portable: Completely self-contained with built-in data logger, processor, rechargeable battery, ultrasonic probe and 7" touch panel color display
- No PC needed: Touch panel color display allows for easy programming, sample analysis and data display
- Rugged design: Sealed enclosure and shock mounted optics block
- Simplicity: On-screen step-by-step instructions walks the operator through a measurement
- Versatility: Multiple Mie models as well as Fraunhofer model available for inversion, selectable from the touch panel
- All data-processing performed on board and stored in ASCII format. No post-processing
- Outputs: Total volume concentration, mean size, standard deviation, optical transmission, D5, D10, D16, D25, D50 (median grain size), D60, D75, D84, D90, D95, D60/D10 (Hazen uniformity coefficient), particle surface area, silt fraction, silt volume, size distribution, battery voltage, sample notes, operator name and instrument configuration

SPECIFICATIONS subject to change without notice

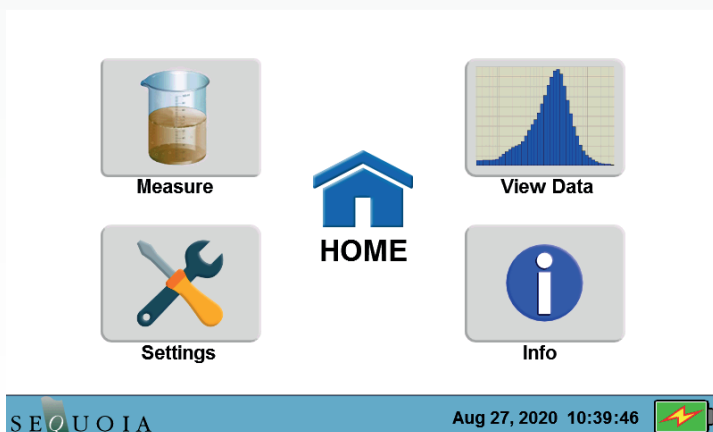
Operating Concentration Range

- Size range 0.34 μm to 500 μm in 44 log-spaced size classes
- Concentration range 30 $\text{mg}\cdot\text{L}^{-1}$ to 1,900 $\text{mg}\cdot\text{L}^{-1}$. Note: Dependent on particle size (see table)

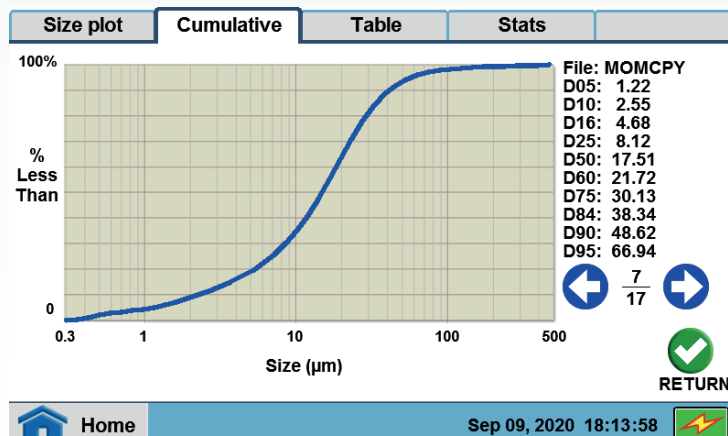
Material	Concentration [mg/l] @ 95% transmission	Concentration [mg/l] @ 75% transmission	D10 [μm]	D50 [μm]	D90 [μm]	SMD [μm]
ISO Fine	30	170	1.5	7	41	3
ISO Coarse	95	395	4	38	99	10
20-30 μm glass beads	195	1,075	19	24	34	24
Sieved sand 75-125 μm	345	1,925	85	122	175	112

Mechanical and Electrical

- Dimensions: [H \times D \times W] 17.7 cm \times 29 cm \times 44.3 cm (7" \times 11.5" \times 17.5")
- Weight: 7.5 kg (17 lbs)
- Shipping box dimensions: [H \times D \times W] 78 cm \times 53 cm \times 28 cm (31" \times 21" \times 11")
- Gross weight: 22 kg (49 lbs)
- Data storage: 1 GB (~100,000 size distributions and associated sample information)
- Rechargeable Lithium-ion batteries provide six hours of sample processing. Batteries classified as non-hazardous for air shipment
- 25 W, 40 kHz ultrasonic probe with controller electronics, managed from the touch panel display



Touch panel Screenshot of Main Menu



Touch panel Screenshot of Size Distribution